



CERTIFICATE OF MAILING (37 CFR 1.8a)

Thereby certify that this correspondence is, on the date shown below, being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22213-1450

December 30, 2006
Date

L R
Signature

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Juanita PARRIS, et al.
SERIAL NO.: 10/034,005
FILED: DECEMBER 28, 2001
FOR: SOLVENTLESS UNIVERSAL COLORANTS
ART UNIT: 1714
EXAMINER Callie SHOSHO

AMENDED APPEAL BRIEF PURSUANT TO 37 C.F.R. 41.37

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22213-1450

Sir:

An Appeal Brief was timely filed for the above application on September 21, 2006 in response to a Notice of Appeal dated May 1, 2005. A Notification of Noncompliant Brief was mailed for the Appeal Brief on November 2, 2006. The Notification stated that an Evidence Appendix and a Related Proceedings Appendix should be added and the Appeal Brief resubmitted. In a December 29, 2006 conversation with the undersigned, Patent Appeal Center Specialist Leneetha L. Dyar courteously confirmed this understanding. She further explained that since in this Appeal there are no known related proceedings and no evidence submitted, a single sheet of paper headed Evidence Appendix and Related Appeals Appendix with the text "none" should be provided. Accordingly, the Appeal Brief is here resubmitted, amended to include the appendices described in the preceding sentence.

BEST AVAILABLE COPY

APPEAL BRIEF

Real Party in Interest

The real party in interest in this appeal is the assignee, Sun Chemical Corporation.

Related Appeals and Interferences

Appellant, appellant's legal representative, and appellant's assignee are unaware of any prior or pending appeals, interferences or judicial proceedings related to, that directly affect, or may be directly affected by or have a bearing on the Board's decision in this appeal.

Status of Claims

Claims 1-52 are pending in the application. Claims 25-52 are allowed. Claims 3-5, 7, 10, 14 and 16-18 are objected to as being dependent upon a rejected base claim. Claims 1, 2, 6, 8, 9, 11-13, 15 and 19-24 are rejected, and are being appealed.

Status of Amendments

No amendments were filed subsequent to the final rejection dated December 1, 2005.

Summary of Claimed Subject Matter

Claims 1 and 25 are independent. Of the independent claims, claim 1 is being appealed.

Claim 1 is directed to a method of preparing a universal base composition comprising dispersing a pigment in a resin that is soluble in both water and organic solvent and wherein the

resin comprises both hydrophobic and hydrophilic monomers whose total weight is at least about 20% of the total weight of the resin and the weight ratio of hydrophobic monomers to hydrophilic monomers is from 1/5 to about 5. (See page 3, lines 11-19, page 4, lines 5-13, and page 39, lines 1-10).

Grounds of Rejection to be Reviewed on Appeal.

The grounds of rejection presented for review are:

- (i) Claims 1-2, 12-13, 19, and 21-24, which are rejected under 102 (b) as being anticipated by Scheibelhoffer et al. (US 5,670,561). The issue is whether Scheibelhoffer et al. inherently teaches all of the elements of the presently claimed invention;
- (ii) Claims 1-2, 9, and 21-24, which are rejected under 102 (b) as being anticipated by Takahashi et al. (US 4,234,466). The issue is whether Takahashi et al. inherently teaches all of the elements of the presently claimed invention; and
- (iii) Claims 1-2, 6, 8-9, 11-12, 15, 19-20, and 22-24, which are rejected under 102 (b) as being anticipated by EP 116666 in view of Thomm et al. (US 3,846,507) and Login (4,089,741). The issue is whether EP 116666, either expressly or inherently, teaches all of the elements of the presently claimed invention.

Arguments

Rejection of Claims 1-2, 12-13, 19, and 21-24 under 102 (b) as being anticipated by Scheibelhoffer et al. (US 5,670,561)

Independent claim 1, which is the subject of this appeal, is directed to a method of preparing a universal base composition comprising dispersing a pigment in a resin that is soluble in both water and organic solvent and wherein the resin comprises both hydrophobic and hydrophilic monomers whose total weight is at least about 20% of the total weight of the resin and the weight ratio of hydrophobic monomers to hydrophilic monomers is from 1/5 to about 5.

The Examiner rejected claim 1, and claims 2, 12-13, 19 and 21-24, which depend therefrom, in a non-final Official Action dated August 21, 2003, and again in a final Official Action dated December 1, 2005. The Examiner states:

Scheibelhoffer et al. disclose [a] method of making dry color concentrate, i.e. solventless universal base composition, comprising dispersing a pigment in a resin wherein the resin is obtained from both hydrophobic, i.e. styrene, monomer and hydrophilic, i.e. maleic anhydride, monomer in ratio of hydrophobic monomer to hydrophilic monomer of; for instance, 3/1 or 1/1. The resin has [a] molecular weight of 500-3000 while the pigment is present in the color concentrate in amount of 25-95%. The pigment is dispersed in the resin in the presence of additives such as surfactant (col. 1, lines 9-10, col. 1, line 64-col. 2, line 6, col. 2, lines 40-42, col. 4, lines 42-67, col. 5, lines 54-65, and col. 7, lines 33-44 and 65-66). Given that the resin contains both hydrophobic monomer and hydrophilic monomer that are present in [the] ratio as presently claimed, it is clear that the resin will inherently be soluble in both water and organic solvent as presently claimed.

Official Action, August 21, 2003, paragraph 2.

The Examiner maintained the rejection in the final rejection dated December 1, 2005.

The Examiner states:

Secondly, with respect to Scheibelhoffer et al. and Takahashi et al., the examiner's position remains that given that the resin of Scheibelhoffer et al. and Takahashi et al. each contain both hydrophobic monomer and hydrophilic

monomer that are present in ratio as presently claimed, it is clear that the resin will inherently be soluble in both water and solvent as presently claimed. It is stated that it is examiner's position that the resin of the prior art is inherently soluble in both water and solvent given that the resin contains both hydrophilic monomer and hydrophobic monomer and that these monomers are present in ratio as presently claimed. Given that hydrophobic monomers and the hydrophilic monomers each have different solubility in water and in solvent, it is clear that the mere presence of each in the resin would necessarily impart some degree of water solubility and solvent solubility to the resin. Evidence to support this position is found, for instance, in Boessler et al. (U.S. 4,112,215), which discloses that hydrophobic monomers promote solubility in organic solvents and limit solubility in water while hydrophilic monomers promote solubility in water (col.3, lines 12-19). Thus, it is clear that the presence of both hydrophobic monomer and hydrophilic monomer would produce resin with both water solubility and solvent solubility and that by controlling the ratio of hydrophobic monomer to hydrophilic monomer present in the resin, one would control the solubility of the resin in water and in solvent.

Further, with respect to Scheibelhoffer et al., given that Scheibelhoffer et al. disclose styrene maleic anhydride copolymer possessing both hydrophobic monomer, i.e. styrene, and hydrophilic monomer, i.e. maleic anhydride, in ratio as presently claimed, it is clear that the copolymer would inherently be soluble in both water and solvent. Evidence to support this position is [sic] found in Gabriel et al. (U.S. 5,476,687) which discloses that styrene maleic anhydride is soluble in a number of solvents and that the solubility of the copolymer in solvent increases as the ratio of styrene monomer to maleic anhydride monomer increases (Col. 4, lines 6-10) and Alexander et al. (U.S. 4,820,773) which discloses that the higher the ratio of styrene to maleic anhydride, the lower the solubility of styrene maleic anhydride in water (col. 9, lines 2-5). Thus, it is clear that solubility in water and in solvent for styrene maleic anhydride copolymer as disclosed by Scheibelhoffer et al. does in fact depend on the presence of the hydrophobic monomer and the hydrophilic monomer as well as their ratio.

Official Action, December 1, 2005, page 3, line 15 bridge to page 4, line 21.

The issue is whether the resins of Scheibelhoffer et al. inherently will be soluble in both water and organic solvent because it contains both hydrophobic and hydrophilic monomers in the ratio as presently claimed.

It is well known that to substantiate a rejection based upon anticipation, each and every element of a claim must be contained in one reference. .” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The elements must be

there expressly or inherently. *Id.* The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). "To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

Scheibelhoffer et al. teaches a color concentrate that comprises (a) a low melt viscosity resin, (b) a high melt viscosity resin with a high molecular weight, (c) a colorant, and optionally, (d) a surface active agent. (Scheibelhoffer col. 2, lines 39-42, col. 6, and line 11, col. 7, lines 37-38, and col. 7, lines 65-66, respectively). Scheibelhoffer et al. does not disclose or teach all of the elements of the claimed invention in claim 1. Specifically, it fails to teach that a resin is soluble in both water and organic solvent with both hydrophobic and hydrophilic monomers in a certain ratio range of a total weight of at least 20% of the total weight of resin. There is no disclosure in Scheibelhoffer et al. regarding the total weight of the monomers. It also does not teach solubility.

The Examiner maintains the rejection arguing that because specific monomers (styrene and maleic anhydride) are present in the ratio presently claimed, the resulting copolymer would inherently be soluble in water. Again, the Examiner is mistaken, as is evidenced by her reference to Boessler et al., which highlights the "possibilities" regarding the solubilities of copolymers.

In addition to these monomers, those monomers which if polymerized alone would form water-insoluble homopolymers form from 20-95 percent by weight of the vinyl copolymer. Preferred monomers of this type are styrene, vinyl acetate, and, preferably,

alkyl esters of acrylic acid or methacrylic acid having from 1-10 carbon atoms in the alkyl portion. *The amount of the last-mentioned monomers, which are difficultly soluble or insoluble in water, present in the vinyl copolymer depends on the degree of hydrophilicity of the water-soluble monomers copolymerized therewith.* If very strongly hydrophilic monomers, such as polymerizable quaternary ammonium compounds, are employed, a considerable fraction of hydrophobic monomers will be necessary in order to assure the water-insolubility of the copolymer. Conversely, less hydrophilic monomers, such as the hydroxyalkyl esters of acrylic acid or methacrylic acid, *may predominate over the hydrophobic monomers.* (Emphasis added).

Boessler, col. 4, lines 18-36.

Boessler clearly states that the solubility is dependent upon the amount of the monomers present; however, it does not define a ratio. Further, Gabriel discloses a composition for coating a metal fastener, wherein the composition comprises an aromatic monomer because they form polymers that are stiff and clear (col. 3, lines 40-47) and monomers with α , β unsaturation associated with carboxyl or partially esterefied carboxyl groups (col. 3, lines 48-52). Gabriel fails to teach the hydrophobic and hydrophilic monomers of the presently claimed invention in the claimed weight or ratio.

Scheibelhoffer et al. fails to teach, either expressly or inherently, all of the elements of the claimed invention. Further, the multiple supporting references, Boessler and Gabriel, cited by the Examiner fail to: (a) prove that Scheibelhoffer et al., as the primary reference contains an "enabled disclosure;" (b) explain the meaning of a term used in the primary reference; or (c) show that a characteristic not disclosed in the Scheibelhoffer et al. is inherent. (See MPEP 2131.01).

The Examiner has failed to support her case of anticipation. Withdrawal of the rejection and allowance of the rejected claims is respectfully requested.

**Rejection of Claims 1-2, 9 and 21-24 under 102 (b) as being anticipated by Takahashi et al.
(US 4,234,466)**

Again, independent claim 1 is the subject of this appeal and this issue. The Examiner also rejected claims 2, 9, and 21-24, which depend from claim 1, in a non-final Official Action dated August 21, 2003, and again in a final Official Action dated December 1, 2005. The Examiner states:

Takahashi et al. disclose [a] method of making solid pigment dispersion, i.e. solventless universal base composition, comprising dispersing a pigment in polyester wherein the polyester is obtained from both hydrophobic monomer and hydrophilic monomer. The pigment is present in the color concentrate in amount of 1-70%. The pigment is dispersed in the resin in the presence of additives (col. 2, lines 25-32, col. 3, lines 25-26 and 56-58, col. 4, lines 9-13, and col. 5, lines 26-31). Given that the polyester contains both hydrophobic monomer and hydrophilic monomer that are present in ratio as presently claimed, it is clear that the polyester will inherently be soluble in both water and organic solvent as presently claimed.

From example 2, it is calculated that the ratio of hydrophobic monomer to hydrophilic monomer present in the polyester is approximately 0.22 (19.7/88).

Official Action, August 21, 2003, paragraph 3.

The issue here is the same as that above. Whether Takahashi et al. inherently anticipates the presently claimed invention. As discussed above, to sustain an anticipation rejection, each element of a claim must be contained in the reference, and inherency must be more than a possibility of an outcome.

Takahashi et al. teaches a process for preparing a solid pigment dispersed composition comprising subjecting a liquid composition to polymerization, wherein the liquid composition comprises essentially at least one ethylenically unsaturated polymerizable compound, at least one resin that can be dissolved or dispersed in the ethylenically unsaturated polymerizable compound, and at least one pigment. (col. 3, lines 25-28, and lines 56-58). Takahashi et al. fails

to teach that the resin must contain hydrophobic and hydrophilic monomers, and that the resins are at least 20% of the total weight of the resin.

The Examiner calculates the ratio of neopentylglycol, which is water soluble, to the remaining three components (phthalic anhydride, thioglycolic acid and trimethylolpropane) in Example 2 as 0.22. This calculation does not render the ratio of the presently claimed invention inherent. The ratio of the presently claim invention is for hydrophobic monomers to hydrophilic monomers, while the overall weight percent of the monomers is at least 20% of the total weight of the resin. For example, the ratio of phthalic anhydride (an insoluble monomer) to thioglycolic acid (a water soluble monomer) is 11 (55/5), which is outside of the claimed ratio of 1/5 to 5.

Takahashi et al. fails to teach each and every element of the presently claimed invention, either expressly or inherently. Withdrawal of the rejection and allowance of the rejected claims is respectfully requested.

Rejection of Claims 1-2, 6, 8-9, 11-12, 15, 19-20, and 22-24 under 102 (b) as being anticipated by EP 116666 in view of Thomm et al. (US 3,846,507) and Login (4,089,741).

Independent claim 1 is the subject of this appeal. The Examiner rejected claim 1, and claims 2, 6, 8-9, 11-12, 15, 19-20 and 22-24, which depend therefrom, in a non-final Official Action dated August 21, 2003, and again in a final Official Action dated December 1, 2005. The Examiner states:

EP 116666 discloses method of making color concentrate, i.e. solventless universal base composition, comprising dispersing a pigment in a resin wherein the resin is obtained from both hydrophobic monomer and hydrophilic monomer and is soluble in both water and organic solvent. The pigment is present in the color concentrate in amount of 1-70% and is in the form of a presscake. The resin has softening temperature of 130-350 °C (col. 1, lines 3-5 and 27-34, col. 2, lines 7-10, col. 5, lines 7-17, 22, 24-27, and 31-33, col. 6, lines 4-9, col. 7, lines 9-31,

and col. 11, lines 20-35).

EP 116666 discloses that the resins include acrylic resin comprising hydrophobic monomer and hydrophilic monomer in ratio of, for instance, 4/1 (example 15) as well as polyamide and polyester. When discussing the use of specific types of polyamide and polyester in the examples, EP 116666 refers to Thomm et al. and Login, respectively. Example 2 of Thomm et al. disclose polyamide made from hydrophobic and hydrophilic monomer present in ratio of approximately 0.91 (232+116)/(226+268). Login discloses the use of polyester which has acid number of 5-15 and molecular weight of 4000-11000 (col. 5, lines 15-19) which is obtained from hydrophobic monomer and hydrophilic monomer in ratio of, for instance 1.14/1 (5981(467+56.8)) (see Example 1).

Official Action dated August 21, 2003, paragraph 2.

The Examiner maintained the rejection in an Official Action dated December 1, 2005, page 3, lines 12-14, wherein he states "... it is noted that the Examiner did not use such inherency argument with respect to EP 11666 [sic] given that EP 11666 [sic] explicitly discloses (page 2, lines 9-10) the use of resin that is soluble in both water and solvent." The issue is whether EP 11666 teaches all of the elements of the presently claimed invention.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Additionally, only one reference should be used in making a 102 rejection unless the additional references are cited to: (a) prove the primary reference contains an "enabled disclosure;" (b) explain the meaning of a term used in the primary reference; or (c) show that a characteristic not disclosed in the reference is inherent. See MPEP 2131.01. "To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled with recourse to extrinsic evidence. Such evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would

be so recognized by persons of ordinary skill." *Continental Can Co. USA v. Monsanto Co.*, 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991).

EP 116666 teaches the coloring of thermoplastic articles by incorporating color concentrates. (See page, 1, lines 8-10). The color concentrate is a blend of two components: (i) a water dispersible or organic solvent, and (ii) a heat-stable chemically inert coloring agent. (See page 5, lines 7-9, and 24-27). The Examiner points to page 2, lines 9-10 of EP 116666 as explicitly disclosing "the use of resin that is soluble in both water and solvent." Official Action, December 1, 2005, page 3, lines 12-14. There are additional elements to the claimed invention, which are not specifically taught by the reference. The reference does not teach that the: (a) total weight of the hydrophobic and hydrophilic monomers is at least about 20% of the total weight of the resin; or (b) weight ratio of hydrophobic monomers to hydrophilic monomers is from about 1/5 to 5.

The Examiner's cite to Example 15 is a "for example" of the ratio. Example 15 uses 2-sulfoethyl methyl acrylate and ethyl acrylate as the monomers. EP 116666, as well as the Examiner, fails to classify these monomers as either hydrophobic or hydrophilic. Further, the reference to Thomm et al. (3,846,507) does not support an inherency argument. The Examiner states that "Example 2 of Thomm et al. disclose polyamide made from hydrophobic and hydrophilic monomer present in ratio of approximately 0.91 (232+116)/(226+268)." Official Action, December 1, 2005, page 4, lines 8-10. Thomm et al. teaches a process for producing a fiber forming polyamide having certain benzene sulfonates units occurring in the polymer. Similarly, Login teaches a phosphorous-containing polyester useful for yarn. The polyester composition is prepared in a water-insoluble that must be neutralized with free acid. (See col. 2, lines 28-32). Neither of these reference "make clear that the missing descriptive matter is

0001 10/05/00
necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill" as required by *Continental Can*, supra.

EP 116666 fails to teach each and every element of the presently claimed invention.

Withdrawal of the rejection and allowance of the rejected claims is respectfully requested.


Conclusion

The Examiner has selectively chosen examples among the references to support her position. These examples, or the references in their entirety, do not teach all of the elements of independent claim 1, either expressly or inherently. The supporting references do not serve the purpose of supporting references as detailed in MPEP 2131.01.

Applicant respectfully request that the Board reverse the Examiner's decision and remand the application with an order to issue a notice of allowance for all rejected claims.

Consideration of the Appeal Brief filed September 21, 2006, as amended by the addition of an Evidence Appendix and Related Appeals Appendix on a single sheet, is respectfully solicited.

Respectfully submitted,


Catherine Roseman Smith
Attorney for Applicants
Registration No. 34,240
Tel. No.: (201) 612-2365
38 Carlton Ave.
Ho-Ho-Kus, N.J. 07423



CLAIMS APPENDIX (With Appealed Claims In Bold)

1. A method of preparing a universal base composition comprising dispersing a pigment in a resin that is soluble in both water and organic solvent and wherein:
 - (a) said resin comprises both hydrophobic and hydrophilic monomers;
 - (b) the total weight of the hydrophobic and hydrophilic monomers is at least about 20% of the total weight of the resin; and
 - (c) the weight ratio of hydrophobic monomers to hydrophilic monomers is from about 1/5 to about 5.
2. The method of claim 1, wherein the resin is selected from the group consisting of polyester, acrylic, polyurethane, polyamide, and copolymer resin thereof.
3. The method of claim 2, wherein the resin is a polyurethane resin.
4. The method of claim 3, wherein the total weight of the hydrophobic and hydrophilic monomers is from about 25 to about 35% of the total weight of the resin.
5. The method of claim 3, wherein the weight ratio of hydrophobic monomers to hydrophilic monomers is from about 1/3 to about 3.
6. The method of claim 2, wherein the resin is a polyamide resin.
7. The method of claim 6, wherein the total weight of the hydrophobic and

hydrophilic monomers is from about 40 to about 60% of the total weight of the resin.

8. The method of claim 6, wherein the weight ratio hydrophobic to hydrophilic monomers is from about 1/3 to about 3.

9. The method of claim 2, wherein the resin is a polyester.

10. The method of claim 9, wherein the total weight of the hydrophobic to hydrophilic monomers is from about 50 to about 70% of the total weight of the resin.

11. The method of claim 9, wherein the weight ratio of hydrophobic to hydrophilic monomers is from about 1/3 to about 3.

12. The method of claim 2, wherein the resin is an acrylic.

13. The method of claim 2, wherein the resin is a copolymer.

14. The method of claim 13, wherein the copolymer is a urethane-amide or a urethane-ester.

15. The method of claim 1, wherein resin has an acid number of about 0 to about 300.

16. The method of claim 14, wherein the resin has an acid number of about 30 to about 250.
17. The method of claim 1, wherein the resin has an amine value of about 0 to about 400.
18. The method of claim 17, wherein the resin has an amine value of about 150 to about 380.
19. The method of claim 1, wherein the molecular weight of the resin is from about 500 to about 1,000,000.
20. The method of claim 1, wherein the resin has a softening point of about 20°C to about 200°C.
21. The method of claim 1, wherein dispersing the dispersing is carried out in the presence of additives.
22. The method of claim 1, wherein the pigment is in presscake or dry color form.
23. The method claim 1, wherein the pigment is about 10% to 80% by weight of the universal base composition.

24. A universal base composition prepared according to the method of claim 1.
25. A method of preparing an ink formulation or an ink dispersion comprising:
- (a) preparing a universal base composition by dispersing a pigment in resin that is soluble in both water and organic solvent wherein:
 - (i) said resin comprises both hydrophobic and hydrophilic monomers;
 - (ii) the total weight of the hydrophobic and hydrophilic monomers is at least about 20% of the total weight of the resin; and
 - (iii) the weight ratio of hydrophobic monomers to hydrophilic monomers is from about 1/5 to about 5; and
 - (b) dissolving the universal base composition into a water or organic solution.
26. The method of claim 25, wherein the ink formulation is suitable for laminating applications.
27. The method of claim 25, wherein the ink formulation is suitable for surface applications.
28. The method of claim 25, wherein the ink can be printed with flexographic, gravure, or ink jet processes.
29. An ink formulation prepared according to the method of claim 25.

30. An ink dispersion prepared according to the method of claim 25.
31. The method of claim 25, wherein the resin is selected from the group consisting of polyester, acrylic, polyurethane, polyamide, and copolymer resin thereof.
32. The method of claim 31, wherein the resin is a polyurethane resin.
33. The method of claim 32, wherein the total weight of the hydrophobic and hydrophilic monomers is from about 25 to about 35 % of the total weight of the resin.
34. The method of claim 32, wherein the weight ratio of hydrophobic monomers to hydrophilic monomers is from about 1/3 to about 3.
35. The method of claim 31, where the resin is a polyamide resin.
36. The method of claim 35, wherein the total weight of the hydrophobic and hydrophilic monomers is from about 40 to about 60% of the total weight of the resin.
37. The method of claim 35, wherein the weight ratio of hydrophobic monomers to hydrophilic monomers is from about 1/3 to about 3.
38. The method of claim 31, wherein the resin is a polyester.

39. The method of claim 38, wherein the total weight of the hydrophobic and hydrophilic monomers is from about 50 to about 70% of the total weight of the resin.
40. The method of claim 38, wherein the weight ratio of hydrophobic monomers to hydrophilic monomers is from about 1/3 to about 3.
41. The method of claim 31, wherein the resin is an acrylic.
42. The method of claim 31, wherein the resin is a copolymer.
43. The method of claim 42, wherein the copolymer is a urethane-amide or a urethane-ester
44. The method of claim 25, wherein the resin has an acid number of about 0 to about 300.
45. The method of claim 44, wherein the resin has an acid number of about 30 to about 250.
46. The method of claim 25, wherein the resin has an amine value of about 0 to about 400.

47. The method of claim 46, wherein the resin has an amine value of about 150 to about 380.
48. The method of claim 25, wherein the molecular weight of the resin is from about 500 to about 1,000,000.
49. The method of claim 25, wherein the resin has a softening point of about 20° C to about 200 ° C.
50. The method of claim 25, wherein dispersing the pigment is carried out in the presence of additives.
51. The method of claim 25, wherein the pigment is in presscake or dry color form.
52. The method of claim 25, wherein the pigment is about 10 to 80% by weight of the universal base composition.



EVIDENCE APPENDIX

None attached - not applicable.

RELATED APPEALS AND INTERFERENCES APPENDIX

None attached - not applicable.

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☒ **BLACK BORDERS**
- ☒ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☒ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.